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THE EFFECT OF ENTREPRENEUR ORIENTATION ON SUSTAINABLE PERFORMANCE MODERATED BY IT CAPABILITIES

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ABSTRACT

This research has aim to examine the effect of entrepreneur orientation on sustainable performance moderated by IT Capabilities. This research uses quantitative methods. The population was members of Kediri Catfish Entrepreneurs Association (KCEA). The samples were 245 respondents. Primary data was obtained from filling out questionnaires. The collected data was analysed using PLS-SEM. The research results show that Entrepreneur orientation has a positive and significant effect on sustainable performance. IT capabilities moderate the effect of entrepreneur orientation on sustainable performance.

Keywords: Catfish, Entrepreneur, Kediri, Sustainable performance

INTRODUCTION

Micro, Small and Medium Enterprises (MSMEs) are one pillar of Indonesian economy. MSMEs have an important role in absorbing labor, improving community welfare, and encouraging economic growth. One of MSME sectors with great potential in Indonesia was the fisheries. The fisheries sector has a significant contribution to the Indonesian economy, both in terms of production, exports and employment. It cultivates gourami, tilapia, and catfish that need intense maintenance. Catfish (*Clarias gariepinus*) was popular and wanted because of delicious and tasty, especially in America, Europe, Asia and Africa including Nigeria.

Fish cultivation was one area of entrepreneurship that is rarely popular, one of them was catfish in Kediri. Kediri MSMEs cultivate catfish commodities with amount of production from public waters, pond cultivation and community hatchery units. There were increase from 2018 to 2023, although in 2021 there was a decline. This decline was caused by catfish farmers did not implement Sustainable Performance, such as efficient water management, environment friendly feed, and sustainable pond maintenance. This can decrease the production. Implementing sustainable practices is very important to maintain balance of aquatic ecosystems and catfish productivity.

Sustainable development theory is a conceptual framework to emphasize the importance of development by considering economic, social and environmental aspects to ensure long-term sustainability and balance. Entrepreneurship theory basically discusses entrepreneur ideas and practices. The entrepreneurship theory in context of catfish farming or other aquaculture activities can be applied to understand how innovation, risk management, and other aspects of entrepreneurship can play a role in development of sustainable aquaculture businesses. Referring to the two grand theories, these theories can be linked to strategic management. Strategic management is the process used by organizations to set long-term goals, develop plans to achieve those goals, and allocate resources to achieve those goals.

One strategy to increase the catfish cultivation production in Kediri Regency is a sustainable production (sustainable performance). Therefore, it is very important to study sustainable performance along with other factors, namely Entrepreneur Orientation and Information Technology Capability.

Entrepreneur orientation is the orientation that an organization has to innovate and take risks. Entrepreneur orientation can encourage cultivators to innovate in cultivation process, such as using new technology, developing new products, or developing new markets.

Sustainable performance is a form of performance produced by human resources through various activities done (Elkington, 1998; Ooi et al., 2022). Several previous studies (Adobor, 2020; Evers, 2010; Kassam, 2014; Purves et al., 2015) found that fish cultivation was one areas of entrepreneurship that unpopular, but good management will make a good contribution to food security, poverty alleviation and adds nutritional value.

Sustainable performance can be seen from 5 categories as productivity, stability, efficiency, durability, compatibility and equity (Dang, 2020). The entrepreneur orientation is another important component to improve sustainable performance, (Cho & Lee, 2018; Hooi et al., 2016). Entrepreneur orientation is a pattern that relates entrepreneurship to management, especially strategic management.

Entrepreneur orientation become interesting phenomenon in areas of human resource management, marketing management and financial management as well as strategic management for the linkage with behavior. This is a behavior that unique because supported by confidence in someone and strong desire of entrepreneurship (Bacq & Janssen, 2011) .

Information technology is used to support organizational activities. Information technology can be used to increase the efficiency and effectiveness of farming activities, such as using information systems to manage production data, advanced technology to improve the quality of catfish, or the internet to market catfish.

Previous research shows differences and conflicting results. Bulanova et al. (2016) and Henley et al. (2017) showed that Entrepreneur Orientation has significant effect on Sustainable Performance. On other hand, Chae (2014) and Gomes (2018) showed that Entrepreneur Orientation does not have a significant effect on Sustainable Performance. These inconsistent results require further research to identify and analyzing the role factors of IT capabilities as a moderating variable for the effect of entrepreneur orientation on sustainable performance.

This research focuses on investigating factors to affect sustainable performance in freshwater fish cultivation in Kediri Regency area. The main reason for conducting this research is because there are demands from the community and surrounding environment that want changes to more positive and having a good impact, especially in terms of economic growth in this sector.

Based above background description, this research has a theoretical contribution to strategic management. The grand theory presented is relevant to strategic management, which synergizes sustainable performance, entrepreneur orientation, and IT capability. There is some novelty of this research. The entrepreneur orientation variable in previous research consists of proactiveness, risk-taking and innovation. This research added a passion indicator. The passion is a strong tendency towards activities that individuals like, where they understand that this is important, and are willing to invest their time and energy (Vallerand and Houlford, 2003).

Based on results of previous research and phenomenon of aquaculture that has been discussed above, the problem in this research focuses on sustainable performance on catfish cultivation in Kediri. Therefore, researchers examine whether the use of IT Capability variable moderates the effect of entrepreneur orientation on sustainable performance.

THEORETICAL STUDY AND HYPOTHESIS DEVELOPMENT

The Effect of Entrepreneur Orientation on Sustainable Performance

Sustainable refers on condition in development moment without affect to fulfil needs of future generations (Adams & Abhayawansa, 2022). Related to performance, sustainable performance is an effort of somebody or group person in their organization to carry out their activities to achieve objective to realize sustainable performance.

Entrepreneurship has a definition that has developed over the centuries. The term entrepreneur comes from French, history of entrepreneur in middle of this century it took the form of clerical which means responsible with work And naturally with environment where individual stay. Entrepreneurship is a driver of

economic growth. An entrepreneur is a person who sees opportunities to create a valuable good or service (Atarah & Nolan, 2023; Mirvis & Googins, 2018)

Several previous studies in entrepreneur orientation have relation to sustainable performance. It has attracted MSME players in all sectors and all business scales, both in urban and rural areas (Elenurm, 2012; Xu, 2016) . The activities done by MSME actors who focus on entrepreneur orientation are different from entrepreneurs who do not have a focus on maintaining the business.

Entrepreneur orientation has its own uniqueness, because MSME players try with all their efforts to ensure that business they manage can provide benefits, both internal and external benefits (Bull & Whittam, 2021; Kropp & Lindsay, 2007). They have a strong hope to increase the sustainable performance. Therefore, hypothesis 1 is structured below.

H1: Entrepreneur orientation affects on sustainable performance

IT Capabilities Moderate the Effect of Entrepreneur Orientation to Sustainable Performance

Several existing theoretical literature (Czakov et al., 2019; Lee, 2023) stated that technological capabilities have an important role to facilitate various activities to become more effective and efficient. Technological capabilities, which in this case can be called IT capabilities, have a very important role for business people, including MSMEs, to make all their activities easier. All MSMEs players have felt that convenience provided by IT makes their business easy to promote, so that it is not only known but can be easily enjoyed by consumers.

Several studies have shown that IT capabilities have their own meaning for MSME actors, which in this case can provide convenience and actually create difficulties, even significant difficulties for actors who are still starting to use IT. IT capabilities have a role important to provide a moderating effect on existence of entrepreneur orientation towards sustainable performance. The entrepreneur orientation can increased benefits, especially increasing sustainable performance because it is moderated by existence of IT capabilities (Alerasoul et al., 2022; Maresch & Gartner, 2018). Based on above description, the hypothesis 2 is stated below.

H2: IT capabilities moderate the effect of entrepreneur orientation on sustainable performance

RESEARCH METHOD

This study uses quantitative approach. Creswell & Creswell (2018) explained that a quantitative approach was research that uses quantitative data, such as numbers and statistics. Quantitative approaches are often used for research to test hypotheses or to analyze relationships between variables.

The Kediri Catfish Entrepreneurs Association is the object of research, which is located on Jalan Puncak Jaya 2 No 36, Pare, and Kediri. The study population is 630 members of Kediri Catfish Entrepreneurs Association cultivating freshwater catfish as a commodity. The sample for this research is fish farming practitioners for catfish commodities which are members of Kediri Catfish Entrepreneurs Association. The sample is determined using the Slovin

formula to determine the sample using the following formula.

$$n = \frac{N}{1 + N (e)^2}$$

Description:

n = Number of respondents / Sample size

N = Overall population

e = Percentage of tolerance for sampling error that is still acceptable.

e = Agreed fixed value for allowance for sampling error accuracy, which in this case is 0.05 (5%).

The calculation to determine samples can be shown below.

$$n = \frac{630}{1 + 630 (0,05)^2}$$

= 244.66, rounded to 245 respondents.

The sample for this research was 245 respondents. The unit of analysis in this research is the individual. The researcher collects data from each individual and uses the answers from respondents as an individual data source.

The data sources for this research are primary and secondary data. Primary data was obtained from filling out questionnaires given to MSMEs practitioners of freshwater catfish commodities who are members of Kediri Catfish Entrepreneurs Association. Secondary data indirectly relates to respondents and support the research, namely data that has been processed by other parties in form of archival manuscripts, literature, the internet or other data sources.

The collected data was analysed using PLS-SEM. Direct effect hypothesis testing is done to find out whether each hypothesis has a direct effect. Testing the hypothesis of indirect effect (moderation) was done using the Sobel test.

RESEARCH RESULT

Direct Hypothesis Testing

The direct effect was tested by SmartPLS 3. The path coefficient shows the magnitude effect of an exogenous variable on endogenous variable. Exogenous variables have a significant effect on endogenous variables if the path coefficient value is significant. Figure 1 displays the path coefficients for direct effect and moderating effect.

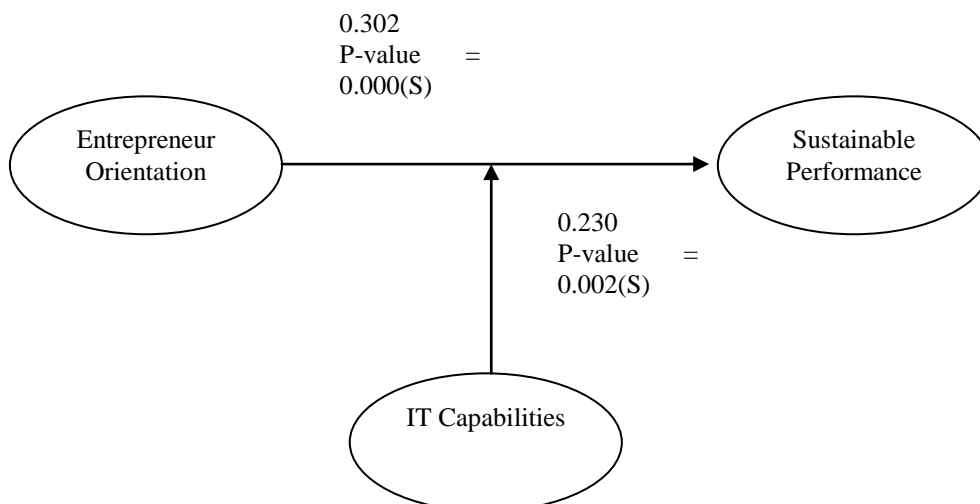


Figure 1. Path Coefficient Results of Partial Least Square (PLS) Analysis

Figure 1 show that in this research two factors for the relationship are directly observed and analyzed. By using structural models and path coefficients, the relationship between research variables can be understood thoroughly. Path coefficients in PLS analysis in structural models can be used to identify the effect between variables in research hypotheses, so that research questions can be answered by explaining how each exogenous variable affects the endogenous variables. Table 1 shows the effect of each exogenous variable on endogenous variable in this research hypothesis

Table 1. Hypothesis Testing Results

Tested Effects		Path Coefficient	t-statistic	P value	Information
H ₁	Entrepreneur Orientation - > Sustainable Performance	0.302	5,123	0,000	Significant
H ₂	EO*ITC -> Sustainable Performance	0.230	3,121	0.002	Significant

Source: Primary data processed, 2024.

Table 1 shows information regarding the path coefficient values for the effect of each exogenous variable on endogenous variable, as well as the *statistical t value* and p-value for each effect coefficient. The results of hypothesis testing can be described below.

- 1) Entrepreneur orientation has a significant effect on sustainable performance. This can be seen from the *statistical t value* which is greater than the *t table* ($5.123 > 1.960$) and p-value of 0.000 which is smaller than 0.05. The coefficient of 0.320 shows a positive sign, which means that relationship between entrepreneur orientation and sustainable performance is in same direction and significant. Therefore, hypothesis 1, which states that entrepreneur orientation effects sustainable performance, **can be accepted**.
- 2) The effect of entrepreneur orientation on sustainable performance moderated by IT capabilities shows significant results with a *statistical t-value* of 3.121 and a p-value of 0.002. These values have met the requirements for accepting the hypothesis, namely the *statistical t value* > 1.960 at a significance level of 0.05 and p-value < 0.05 . Thus it can be stated that IT capabilities moderate entrepreneur orientation towards sustainable performance, so that hypothesis 2 **can be accepted**.

DISCUSSION

The discussion section of this research summarizes the relationships between the variables studied and discusses relevant theories and results of previous research.

The Effect of Entrepreneur Orientation on Sustainable Performance

The research results show that Entrepreneur Orientation has a positive and significant effect on Sustainable Performance. This indicates that attitudes and behavior of business actors in managing business have a strong impact in achieving sustainable goals, both from an economic, social and environmental perspective. The highest loading factor value in entrepreneur orientation variable is risk-taking, which indicates the importance of a proactive attitude in taking risks to achieve sustainable business goals.

Risk-taking, as a key element in entrepreneur orientation, reflects the ability or desire of business actors to take risks in achieving their business goals. Smart and measured risk taking can produce the innovation, growth and competitive advantage needed to achieve sustainable performance. This is consistent with opinion of Ughetto et al. (2020); and Porter's (1980) theory, especially the concepts of differentiation and low costs, provides a framework to understand how entrepreneur orientation can contribute to the creation of sustainable added value in catfish farming industry. Porter's view showed that differentiation and low costs are two basic strategies that can be used by companies to achieve competitive advantage. Differentiation involves creating a product or service that is unique and adds value to customers, while low cost is related to trying to be the most efficient producer in a particular industry. These two strategies can be applied in catfish cultivation by paying attention to the social aspects of entrepreneur orientation.

The catfish farmers uses differentiation to create added value by paying attention to social aspects in cultivation practices. For example, they can introduce innovations in environment friendly cultivation techniques. Low cost strategies can be implemented by paying attention to operational efficiency in catfish farming practices. Cultivators who apply entrepreneur orientation can look for ways to reduce production costs, but still pay attention to social sustainability.

The application of Porter's theory in catfish cultivation also strengthens the relationship between entrepreneur orientation and sustainable performance, especially in social aspect. Considering these two concepts together, farmers can develop strategies that not only generate economic benefits, but also have a significant positive impact on environment and surrounding communities. This creates an environment where cultivators can succeed economically while making meaningful contributions to sustainable social and environmental development. The results of this study support Kohli & Jaworski (1990) , Covin & Slevin (1991) who found that entrepreneur orientation effect sustainable performance.

IT Capabilities in Moderating Entrepreneur Orientation towards Sustainable Performance

IT Capabilities strengthens the effect of entrepreneur orientation on sustainable performance. With high IT Capabilities, organizations can more easily implement sustainability initiatives resulting from entrepreneur orientation. IT Capabilities play an important role in changing the way businesses operate and interact with customers and markets. The catfish farming use information technology to increase operational efficiency, expand market reach, and enable entrepreneurs to make better decisions based on accurate market data.

IT Capabilities can strengthen the effect of Entrepreneur Orientation on Sustainable Performance by providing the tools and infrastructure needed to

implement innovative and market-oriented business strategies. IT Capabilities can also reduce the obstacles and risks associated with adopting Entrepreneur Orientation in catfish cultivation. Right information technology facilitates entrepreneurs to reduce uncertainty and increase transparency in business decision making and creating more confidence to take risks to achieve long-term growth and sustainability.

Related to strategic management theory, this concept reflects the evolution of business paradigm driven by information technology, as expressed by Michael Porter in framework of Porter's five forces analysis. Information technology, when utilized properly, can be a strategic resource that provides a company with a competitive advantage by influencing the dynamics of industry competition, the bargaining power of buyers and suppliers, and threat of substitute products or services and new competitors.

IT Capabilities can be considered as an important moderating mechanism in relationship between Entrepreneur Orientation and Sustainable Performance in context of catfish cultivation. IT capabilities according to Mathews et al. (2021) are a strategy to utilize specific activities in Internet-related settings. Appropriate and effective use of information technology can strengthen the effect of Entrepreneur Orientation on sustainable business performance, while at same time, providing opportunities for innovation and sustainable growth in an increasingly competitive and changing business environment. Entrepreneur orientation moderated by IT capabilities will create or improve excellent sustainable performance (Mathafena, 2021; Sahi et al, 2019; Urban & Maphumulo, 2022)

CONCLUSION

Based on above research findings in research results and discussion, the conclusions can be stated below.

- 1) Entrepreneur orientation has a positive and significant effect on sustainable performance. This shows that entrepreneur attitudes and behavior in facing risks, taking initiative, and seeking new opportunities can improve the sustainable performance of an organization. The results of analysis show that organizations with a high level of entrepreneur orientation tend to achieve better sustainable performance.
- 2) IT capabilities moderate the effect of entrepreneur orientation on sustainable performance. IT capabilities play an important role in moderating the relationship between attitude and entrepreneur orientation and sustainable performance. By making good use of information technology, catfish farmers can increase their operational efficiency and create a more positive and sustainable impact in business.

There are several limitations to this research that need to be considered by future researchers. First, this study was conducted in a limited study population, therefore generalization of findings must be done with caution. Second, the use of questionnaire-based data collection methods can limit more in-depth findings, therefore future researchers can develop this research by combining quantitative and qualitative methods.

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